



United States Department of Agriculture

MISSISSIPPI

NATURAL RESOURCES CONSERVATION SERVICE

ANNUAL REPORT

 FY 2019

Kurt Readus, State Conservationist



ABOUT NRCS

The Natural Resources Conservation Service (NRCS) draws on a long history of helping people help the land. NRCS has worked in close partnerships with farmers and ranchers, local and state governments, and other federal agencies to maintain healthy and productive working landscapes.

On April 27, 1935, Congress passed Public Law 74-46, in which it recognized that "the wastage of soil and moisture resources on farm, grazing, and forest lands... is a menace to the national welfare" and established the Soil Conservation Service (SCS) as a permanent agency in the USDA. In 1994, SCS's name was changed to the Natural Resources Conservation Service to better reflect the broadened scope of the agency's concerns. In doing so, Congress reaffirmed the federal commitment to the conservation of the nation's soil and water resources that was first made more than 80 years ago and continues to this day.

Mississippi NRCS services all 82 counties across the state.

THIS IS WHAT WE DO

- ⇒ NRCS provides one-on-one, personal advice on the best solutions to meet the unique conservation and business goals of those who grow our nation's food and fiber.
- ⇒ NRCS helps people make investments in their operations and local communities to keep working lands working, boost rural economies, increase the competitiveness of American agriculture, and improve the health of our air, water, soil, and habitat.
- ⇒ NRCS generates, manages, and shares the data, technology and standards that enable partners and policymakers to make decisions informed by objective reliable science.



The 2018 Farm Bill was enacted on December 20, 2018. The Farm Bill continues its strong support for conservation efforts of America's farmers and ranchers through reauthorization and expanded flexibility of NRCS conservation programs.

EQIP
Environmental
Quality Incentives
Program

CSP
Conservation
Stewardship
Program

AMA
Agricultural
Management
Assistance Program

ACEP
Agricultural
Conservation
Easement Program

HFRP
Healthy Forests
Reserve Program

RCPP
Regional Conservation
Partnership Program

"Helping People Help the Land"

A MESSAGE FROM THE STATE CONSERVATIONIST



During fiscal year 2019, we had a tremendous amount of opportunities to provide conservation assistance to Mississippi's agricultural producers. The state endured the longest sustained flood; surpassing the Great Flood of 1927, which impacted many of our river counties. The state also persevered while receiving record levels of rain which placed stress on many of the state's watershed structures and impacted the North Hills in a way we have never seen in history.

The staff of Mississippi's NRCS is second to none. I would like to share an example of this with you. During the wee hours of the night, our staff knocked on doors to warn residents of a potential structure failure. This action saved lives and allowed these families to save items precious to them as they moved to higher ground. Our responsibility is consistent with disaster recovery, however; the staff referenced above activated a disaster response.



Helping People, Help the Land is our mission and that was accomplished in part due to the Mississippi's Conservation Partnership. I want to thank our core partners: Mississippi Soil & Water Conservation Commission (SWCC), Mississippi Association of Conservation Districts (MACD), National Association of Conservation Districts (NACD) and others for their commitment to putting conservation on the ground. Through our conservation programs, we were able to enroll 18 easements via the

Agriculture Conservation Easement Program - Wetland Reserve Easement (ACEP-WRE) totaling over 3,000 acres for bottomland hardwood restoration. We also accomplished the closing of our first Agriculture Conservation Easement Program - Agricultural Land Easements (ACEP-ALE), protecting the prairie habitat in Chickasaw County. Keeping working farms working into perpetuity!



Through the flagship program known as the Environmental Quality Incentives Program (EQIP) we were able to provide landowners with over 2,500 contracts treating over 200K acres. Lastly, via the Conservation Stewardship Program (CSP), we along with Mississippi

landowners, are conserving another 200K acres through approximately 580 contracts. The conservation planning that is being implemented today will provide environmental benefits for generations to come.

Fiscal year 2020 will be the year of innovation for NRCS and our partners. We will meet Chief Lohr's priorities:

- ⇒ New 2018 Farm Bill implementation
- ⇒ Prioritize hiring
- ⇒ Streamline processes and program delivery
- ⇒ Provide excellent customer service
- ⇒ Improving outreach to beginning farmers and ranchers
- ⇒ Soil health - promote invaluable principles

With the recent unprecedented increase in applications from landowners for our conservation programs, 2020 provides us all with a tremendous opportunity to conserve today's farms for tomorrow's generation of Mississippi farmers. Together in conservation we can go far.

A handwritten signature in blue ink, appearing to read "Kent L. Lohr". The signature is fluid and cursive.

Mississippi State Office Leadership Team



Management and Strategy - Michael Carr, Assist. State Conservationist

The Management and Strategy staff submits the following synopsis of accomplishments for Fiscal Year 2019.

- 24 Cooperative Agreements were completed totaling \$4,327,492.47.
- One Contribution Agreement totaling \$1,238,807.17.
- Four Watershed Agreements totaling \$34,016,238.00. These were for dam assessments, dam repairs, design, operations and construction.
- Seven Upper Pascagoula Water Quality Enhancements project agreements totaling \$420,806.00.
- 64 Gulf Coast Conservation Reserve Program agreements totaling \$964,105.00.
- Completed administrative amendments on 19 agreements, no-cost extensions on 10 agreements. Added additional funding to two existing agreements totaling \$2,089,660.00.
- Received and processed 300 request for payments.

The State of Mississippi successfully reached its assigned goal for FY-19 as it relates to performance measure 6.9 Conservation Applied to improve environmental quality acres for Conservation Technical Assistance (CTA).

- 365,407 acres of conservation applied to improve environmental quality (CTA).
- 20 Accessible Review Team (ART) reviews have been completed throughout the state.
- 23 State Civil Rights Reviews, ensuring that our field offices had accurate records and current posters posted for public viewing according to our national policy.
- Secured 56 replacement vehicles for the state to replace its aging fleet.



Make a Difference! Join the Earth Team! The USDA Natural Resources Conservation Service (NRCS) is looking for motivated volunteers, ages 14 and up, to help in offices.

The Earth Team provides a variety of opportunities: full- or part-time; outdoor or indoor activities; and as an individual or part of a group. There is something for everyone.

Gain valuable work experience while helping protect America's natural resources!

For more information contact your Area Coordinator.

Laura Anderson - State Coordinator 601.863.3922
 Jennifer Clay Area 1 662.480.3950
 Julie Darden-Kent Area 2 601.437.8121
 Ondine Rudolph Area 3 601.296.1173
 Nancy Melancon Area 4 601.636.7679

FY 19 Report	
Office Utilization	101.2%
Hours Reported	5,109.55
Volunteers	447



FY 19 Earth Team Volunteer State Winners

- Individual Volunteer Award - Delores Pell, Raleigh, MS**
- Group Volunteer Award – Simpson County Earth Team**
- MACD/NRCS Earth Team Award – Oxford Field Office**
- Volunteer Service Award – Jennifer Rikard, Wiggins FO**
- Youth Group Award – Stone County High School AG Students**
- Individual Youth Volunteer Award - Abigail Allison Kirk Academy – Jamie L. Whitten Plant Material Center**
- Employee Award - Edward Dean Miller, Sharkey- Issaquena County**

“Discover why some of the richest people in the world are not millionaires, they are volunteers!” (Jobail Barcelona)



The passing of the Agricultural Act of 2018, also known as the 2018 Farm Bill, will bring changes to our easement programs. Mississippi's NRCS looks forward to those changes as they become effective in the fiscal year 2020. The final rules and guidance are still in development, but we expect it to be finalized very soon. Until then, let's take a look at last year's enrollments.

Mississippi Land Trust and NRCS are happy to announce the first Agricultural Conservation Easement Program - Agricultural Lands Easement (ACEP-ALE) closing. This property, a remnant prairie in Chickasaw county, was enrolled in August of 2016 and came to completion this spring. Hot on its heels are two more easements, and we look forward to more ACEP-ALE enrollments in the future.

Our Regional Conservation Partnership Program (RCPP) Healthy Forest Reserve Program (HFRP) enrollments are still in process, and we look forward to their obligation in the near future!

Finally, our ACEP-Wetland Reserve Easements (WRE) is our most popular easement program in the state. We had more than 310 applications, and with limited funding, we were able to enroll 18 easements. In addition, two 30-year easements were accepted for conversion to permanent easements. These 20 agreements are a significant accomplishment considering the short turnaround time in a compressed funding cycle. This resulted in over \$17 million in obligated funds, putting Mississippi third nationwide for WRE acres enrolled and fourth nationwide in the number of WRE easements enrolled. This takes the effort of the entire state, and especially the easement team, who helped to accomplish these goals.

Let's take a look at the numbers below:

- ⇒ 18 new easement agreements enrolled.
- ⇒ Two 30-yr-to-permanent conversions.
- ⇒ Total 3,802 total acres and close to \$17 million in funds.

 248.1 acres enrolled in the Tri-state Wetlands Reserve Enhancement Program (WREP). That obligated roughly \$1.07 million.

 Our big success was utilizing current and older WREP funds in the Batture this year and enrolling 920+ acres with \$3,617,290.

- ⇒ Enhanced restoration on WRP, NRCS will impact over 9,606 acres utilizing \$2,935,000 WRP funds on existing easements by repairing older structures, impoundments, and vegetative restoration. This obligated 100% of all WRP funds received in the state.
- ⇒ Utilized \$75,000 ACEP funds for continued Geographic Information System (GIS) document management system creation for current easement records.
- ⇒ Closed 25 of 26 FY 2017 enrollments to date.

The new Farm Bill brings a new application period for FY2020 that has not been set yet. All old and new interested landowners will need to submit new applications for consideration. Mississippi is a great supporter of wetland conservation, and we appreciate the opportunity to be involved in its long term protection and restoration.





ENVIRONMENTAL QUALITY INCENTIVES PROGRAM (EQIP)

EQIP provides technical and financial assistance to farmers and landowners to address their natural resource concerns. Funds are distributed at the county level and towards statewide resource concerns. In 2019, Mississippi had six statewide resource concerns.

Mississippi received approximately \$48 million in EQIP funds in 2019. The statewide and county level application sign-up resulted in 11,465 applications with requests of more than \$204 million. These applications resulted in 2,526 contracts being obligated on 212,134 acres.

State leadership working with the Mississippi Soil and Water Commission (MSWC) and the Mississippi Department of Environmental Quality (MDEQ) has completed four readiness phase watershed requests: Lynn Creek – Homochitto River and Booths Creek – Bayou Pierre, Tilda Bogue and Hudson Creek. This can potentially increase the amount of National Water Quality Initiative (NWQI) funds received for FY 2020 by \$1.7 million.

REGIONAL CONSERVATION PARTNERSHIP PROGRAM (RCPP)

RCPP promotes coordination between NRCS and its partners to deliver conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and program contracts or easement agreements.

During FY 2019, Mississippi completed the Skuna River Watershed Project with the Mississippi Soil and Water Conservation Commission (MSWCC) in North East Mississippi. This project was completed and obligated \$396,496, impacting 1,853.1 acres.

The second RCPP project with the Mississippi Urban Forest Council is well underway. This pollinator habitat project will address multiple issues concerning pollination and cover crops. We will guide diverse audiences on how to improve the health of pollinators and impact their health. All best management practices will be demonstrated in model pollinator sites in 12 urban and rural communities as well as 12 specialty crop farmers in or around these communities. Through the diversity of site locations (city and farms), we will be able to track the success of certain practices and the impacts of these practices.

CONSERVATION STEWARDSHIP PROGRAM (CSP)

CSP helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resource concerns. Participants earn CSP payments for conservation performance — the higher the performance, the higher the payment. CSP provides two types of payments through five-year contracts: annual payments for installing new conservation activities and maintaining existing practices and supplemental payments for adopting a resource conserving crop rotation. Producers may be able to renew a contract if they have successfully fulfilled the initial contract and agree to achieve additional conservation objectives. Payments are applied following practice implementation after October first of each fiscal year for contract activities installed and maintained in the previous year. Producers must have effective control of the land for the term of the proposed contract. Contracts include all eligible land in the agricultural operation.

In FY 2019, Mississippi received over 2,614 applications, which resulted in 582 regular and renewed CSP contracts for 298,084 enrolled acres of more than \$50 million in obligations for the state. During FY 2019 Mississippi obligated the highest amount in CSP dollars in the nation.

THE GULF OF MEXICO INITIATIVE (GoMI)

GoMI works hand-in-hand with other NRCS landscape-level conservation efforts. Through the GoMI, NRCS uses conservation programs and practices to provide technical and financial support to help producers, government agencies and other groups put conservation on the ground in the Gulf region. NRCS leverages public-private conservation investments through an extensive network of existing partnerships by coordinating with soil and water conservation districts, state and federal agencies, and nonprofit groups; many NRCS investments are matched two- or three-fold. Partners include federal and state agencies on the Natural Resources Damage Assessment Trustee Council and the Gulf Coast Ecosystem Restoration Council, as well as the National Fish and Wildlife Foundation, which play pivotal roles in aiding Gulf recovery as well as broadening opportunities for voluntary private lands conservation.

In FY 2019, Mississippi enrolled 22,906 acres totaling over \$3 million in the six targeted coastal counties.

Emergency Watershed Protection Program (EWPP)

NRCS utilizes EWP in coordination with a State sponsor to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, wind-storms, and other natural occurrences. EWP is an emergency recovery program.

During FY 2019 state and area project engineers assisted sponsors with submitting 142 Disaster Survey Reports (DSRs), requesting over \$17 million.

The national office approved 127 DSRs, resulting in excess of \$15 million in obligated funding.

Public Affairs - Laura T. Anderson, Public Affairs Officer

The Public Affairs Division provides communications products and services to advance NRCS mission. The Mississippi Public Affairs Team works to serve our employees, customers, and stakeholders by providing them with information on our programs and services.



Outreach and Civil Rights - Charles Lea, Outreach/Civil Rights Coordinator

The Outreach/Civil Rights Division provides leadership to ensure that all programs and services are made accessible to all NRCS customers, fairly and equitably, with emphasis on reaching the underserved and socially disadvantaged farmers or ranchers and landowners.



A Snapshot at FY19

Mississippi's Public Affairs and Outreach/Civil Rights staff participated in outreach activities throughout the state in FY 2019.

The staff provided Natural Resources Conservation Service (NRCS) publications and exhibits to our field offices and partners for events.

One of the most requested items in FY 2019 was our new Soil Tunnel.



"The Soil Tunnel is a new component we added to teach the importance of soil health to our younger generation," said Laura Anderson, state public affairs specialist. "With the wealth of information taught using the tunnel, we find adults are just as intrigued."

The staff also participated in Earth Day events, career fairs, and also interviewed producers and landowners to highlight USDA - NRCS programs.



Ecological Sciences - Rogerick Thompson, State Resources Conservationist

The Ecological Science Department (ECS) started the year off with the approach of further advancing the planning skills in the area of nutrient management. Having over 2,000 Concentrated Animal Feeding Operation (CAFO) and Animal Feeding Operation (AFO) permits expiring from February 2019 through June of 2020, advancement of planning skills was achieved through a statewide Comprehensive Nutrient Management Plan (CNMP). Training was led by the National Animal Manure and Nutrient Management Team, along with Walter Jackson, state agronomist.

Educational efforts continued by honoring the requests of planners who desired to pursue conservation planner

certifications through offering the instructor-led Soil Health training. The training was led by Dennis Chessman, soil health division team lead. In attendance were 38 planners from across the state. These participants received one of the required instructor led certification courses. Planners are now better equipped to address the Soil Health (SH) resource concerns of compaction, organic matter depletion, soil organism habitat loss/degradation, and aggregate stability.

The Jammie L. Whitten Plant Materials Center (PMC) continued its cover crop and soil health technical leadership efforts through the conduction of cover crop studies and demonstration sites. This jewel (PMC), has provided technical assistance to internal and external customers, following species performance data collected. Whether the landowner's goal is to plant a cover after a late harvest, increase biomass, or achieve one of the four soil health resource

concerns, the PMC staff has been right there to recommend the better performing varieties. The long-term soil health study has continued since 2015 to measure infiltration rates based on annual improvements of tillage methods and the use of cover types following harvest. Data collected from plots are used to assist producers in making conservation tillage and cover decisions. Plots include conventional and no-till systems with a variety of cover options (no winter annuals, winter annuals, conventional-tillage-winter annuals, and cover crops).

Mississippi has taken great pride in our partnerships to continue the sustainability of our natural resources. The collaboration between Area Offices, Soil & the Water

Conservation Commission (SWCC), and the Mississippi Department of Environmental Quality (MDEQ), has led to the completion of four additional National Watershed Quality Initiatives (NWQI) watershed assessments. Assessments include the 12-digit Hydrologic Unit Code (HUC) of Lynn Creek, Booth Creek, Tilda Bogue-Bear Creek, and Hudson Creek-Clear Creek. These watersheds will be eligible for financial assistance with the purpose of improving water quality by reducing identified impairments through the planning of conservation practices.

The 2018 Farm Bill has authorized the Feral Swine Eradication and Control Program (FSCP) and in doing so, granted Mississippi the opportunity to pursue additional control measures of this difficult pest. Together, USDA Animal and Plant Health Inspection (APHIS) and NRCS-ECS, submitted a proposal that will result in a four-county FSCP project area, to include Issaquena, Sharkey, Yazoo, and Warren counties. Landowners have the opportunity to use trapping methods to reduce feral hog populations. This reduction will result in a decrease in wildlife habitat destruction, cropland damage, the spread of disease, and the reduction of water quality.

The ECS, Engineering, and Soils Teams ended the year with the completion of State Quality Assurance reviews in 16 counties. The overall goal of the ECS team was to identify opportunities for maximizing the use of conservation practices to address resource concerns, and to identify other training opportunities that are conservation practice related.

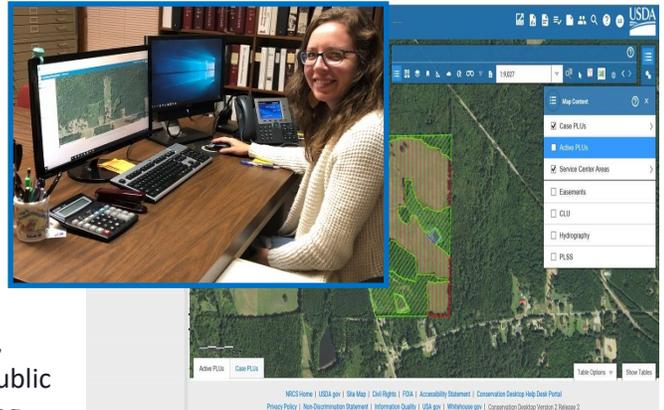




The Mississippi Soils Staff completed the Grazing land on-site Data Collection, which consisted of 20 segments, each segment consisting of three points for a total of 60 points. This data will be used to track changes in land-use by recording changes or shifts in vegetation, which ultimately impacts the health of the land and how we plan for future use and management.

Conservation Desktop (CD)

Lindsey Singleton, resource inventory specialist serves as the team leader for Mississippi's

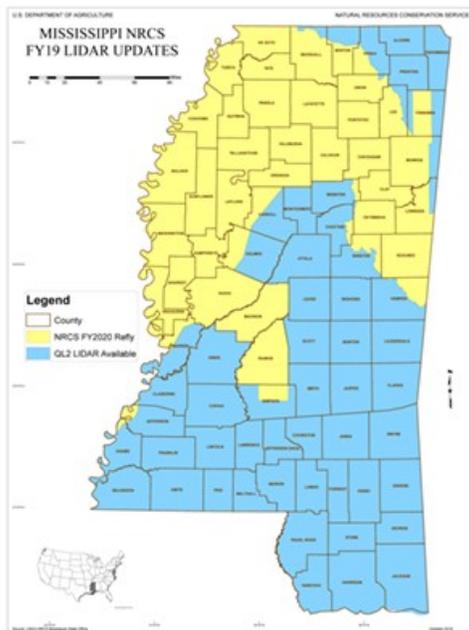


Conservation Desktop. CD will become the technology tool used in our field offices to process analysis for conservation assessment practices based on the priorities of resource concerns and considerations. This tool will replace the Customer Service Toolkit.



Ecological Site Description (ESD) data is being collected to provide a consistent framework for classifying and describing open land, forestland soils and vegetation on public and private lands; thereby delineating land units that share similar capabilities to respond to management activities or disturbance. NRCS is contracting with partners to collect this data to populate a database. This will ultimately be used for conservation assessment, planning, and other land use evaluations.

Julie Pitts, state geographical information systems (GIS) specialist, delivered management, and maintenance of all State geospatial data. She provided GIS services to Field, Area, and State office staff to include, but not limited to, spatial analysis and web services. Julie, also provided cartographic products as requested when needed and/or necessary. She provided Help Desk solutions to Field, Area, and State Office staff as it pertains to GIS software, tools, and analysis. This is also a beta test and works with the latest in GIS technology to find and provide the Field, Area, and State Office staff with tools to make their jobs more efficient.



We now have completed Light Detection and Ranging (LiDAR) data coverage for the state and are in the process of updating with a higher resolution dataset. This high-altitude data will allow conservation specialists, planners, and other customers a tool that can be interpreted remotely or on-site.

The soils staff provided soil outreach and education information to a wide range of groups and communities, including grade schools, agricultural conferences, rural and underserved areas, local and civic clubs, colleges, technical groups, and interagency workshops.



WATERSHED REHABILITATION PROGRAM

The Watershed Rehabilitation Program provides technical and financial assistance to watershed district sponsors for the purposes of planning, designing, and constructing the rehabilitation and upgrades of dams originally constructed with the assistance of USDA Watershed Programs. Funds are distributed in partnership and through the Mississippi Soil and Water Conservation Commission (MSWCC).



Dam assessments provide local sponsors with data regarding the condition of dams, risks to the public in the event of dam failure, and estimated rehabilitation alternatives and costs. In 2019, Mississippi received funding for 31 dam assessments totaling \$620,000.

Greasy Creek Dam LT-1A-11 in Lafayette County and Big Sand Creek Dam Y-32-9A will be entering the design and construction phases this year with a total funding of \$4,700,000.

Richland Creek Dam 2A in Rankin County is anticipated to complete rehabilitation construction by the end of 2019. The final construction costs will be \$900,000.

WATERSHED AND FLOOD PREVENTION OPERATIONS PROGRAM (WFPO)

The Watershed Protection and Flood Prevention Program helps units of federal, state, local, and tribal government (project sponsors) protect and restore watersheds up to 250,000 acres.

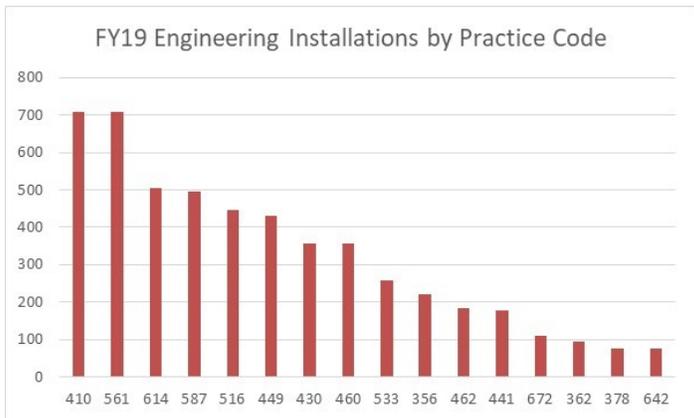
This program provides for cooperation between the Federal government, the states and their political subdivisions to work together to prevent erosion, floodwater, and sediment damage. It also furthers the conservation development use, and disposal of water to further the conservation and proper use of land in authorized watersheds. Currently, there are two plans under consideration for works of improvement for two PL-566 watersheds.

In 2019, a Supplemental Watershed Work Plan for the South Delta Watershed in Humphreys, Sharkey, and Yazoo Counties was completed to reduce flood and drainage damages to cropland, reduce erosion damages to the soil resource base, and reduce sedimentation damages to the watershed streams and channels. Works of improvement on approximately 33 miles of project ditches include clearing and snagging, ditch reshaping (widening and positive grading), selective culvert replacement, accelerated land treatment measures (over-fall pipes), and a grade control structure. Anticipated design and construction costs for these projects will total \$16.8 million.

Also, in 2019, \$1.5 million was acquired to bring up to date a master drainage plan for Richland Creek Watershed in Rankin County in a Supplemental Watershed Work Plan. The document will establish a scope of work evaluating the technical and financial feasibility of installing works of improvement as well as alternatives along the entire length of Richland Creek Watershed, approximately 35 miles.

ENVIRONMENTAL QUALITY INCENTIVE PROGRAM (EQIP) PROGRAM ENGINEERING PRACTICES

In 2019, the engineering program oversaw the planning, surveying, design and contracting of **5,460** engineering conservation practices (47% of state total) impacting **3,364,608 acres** and providing **\$31,160,103 of financial assistance** (65% of state total) to USDA-NRCS Cooperators.



The main practice was 410 Grade Stabilization structures with 708 installations across the state utilizing 31 different engineering practices. Following were: 561 Heavy Use Area Protection with 707 installations, 614 Watering Facility with 505 installations, 587 Structure for Water Control (pipes and flowmeters) with 495 installations, 516 Livestock Pipeline with 445 Installations, 449 irrigation Water management with 431 installations, 430 irrigation Pipeline with 358 installations.





Christy Robinson, Area Conservationist (Area 1)

Alcorn, Benton, Calhoun, Carroll, Chickasaw, Clay, Desoto, Grenada, Itawamba, Lafayette, Lee, Marshall, Monroe, Montgomery, Panola, Pontotoc, Prentiss, Tate, Tippah, Tishomingo Union, Webster, Yalobusha

Area 1 employees have worked so hard this year. FY 2019 had plenty of challenges, but our staff provided excellent customer service to our farmers by servicing 4,500 applications. The two hallmark programs of EQIP and CSP netted \$21 Million on 800 contracts to landowners in 23 North MS Counties. We also assisted numerous units of government with Emergency Watershed Protection funds on 40 projects by completing or requesting \$5 Million in funds. This year, Area 1 employees have participated in District and Soil Conservationist Meetings or Soil Conservation Technician training events to improve skills and methods.

- Christy Robinson

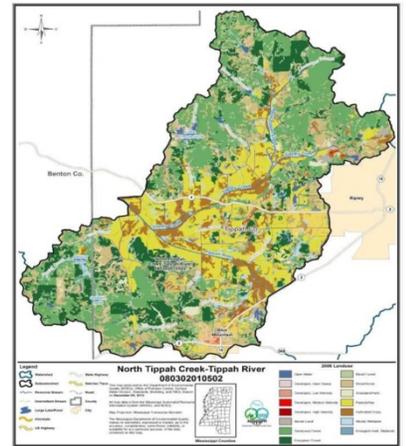
NWQI Continues to improve the North Tippah Creek Watershed



The North Tippah Watershed continues to reap the benefits of the National Water Quality Initiative Program. The watershed was recognized as high priority by the Mississippi Department of Environmental Quality and the Environmental Protection Agency due to excessive sediment loss resulting in funding for conservation practices since 2012. Producers within the watershed have installed many conservation practices to improve water quality, reduce sediment/nutrient loss, and improve soil quality.

North Tippah watershed is in the Western Portion of Tippah County. North Tippah Creek, a tributary of the

Tippah River, flows through portions of Tippah, Benton, and Marshall counties in northwestern Mississippi to the Sardis Reservoir. The current land usage in the North Tippah River Watershed include 60% cropland (about 21,316 acres), 10% pasture land (about 3,553 acres); 25% timberland (about 8,881 acres) and; 5% other lands (about 1,776 acres).



Freeman and Sons Farms is in the North section of the watershed. North Tippah River runs right through the middle of their operation. The Freemans have seen their landscape change over the years due to extensive erosion. Larry Freeman, co-owner, says, "These ditches are getting wider and deeper every year. It's taking my soil to the Sardis Reservoir!" North Tippah Creek is degrading to the elevation of Tippah River, which is approximately 4 miles downstream, causing severe streambank and gully erosion. "If it wasn't for the NWQI Program, I do not know how I could afford to fix it," Mr. Larry stated.

Freeman and Sons, a third generation farm, runs a 185 head cow/calf operation with 300 acres in pasture, 300 acres of pure Bermuda hay, and 300 acres of mixed-grass hay. They are a conservation driven operation. When asked about conservation on his farm Mr. Larry simply states, "If we don't do it, then who will?"

"NWQI is a blessing to the agriculture producers in the North Tippah Watershed. It's great to have these resources in areas that need them the most," said John Estes, supervisory district conservationist. "Outstanding conservation efforts have been put on the ground through NWQI and much more needed, especially after the 12 inches of rain we received in February."

As much of the northern part of the state, the North Tippah Watershed received massive amounts of rain in late winter. Due to the dormant vegetation, excessive erosion occurred from the flooding events.



Headcut proceeding up the drainage system



North Tippah River, February 20, 2019



Bank Erosion after Flood Event-Winter 2019



Rock Installed to control the head cut from progressing





David Brunson, Area Conservationist (Area 2)

Attala, Choctaw, Claiborne, Clarke, Copiah, Hinds, Jasper, Kemper, Lauderdale, Leake, Lowndes, Madison, Neshoba, Newton, Noxubee, Oktibbeha, Rankin, Scott, Simpson, Smith, Winston

“Area 2 has become a leader in the state for its Outreach community meetings, Earth Team Volunteer Program, as well as managing the EQIP program—a total of 605 contracts with \$8,890,371 obligated on 47,669 acres during FY 2019. We have an exceptional team that goes above and beyond to make sure that conservation is put on the ground. Applications received and serviced—EQIP 2,481; CSP 286; CSP-CGI 47.”

-David Brunson

John Outlaw, Overcoming Obstacles in Cattle Farming with NRCS and Partners

Story and Photos by Judith Craddock



Oktibbeha County cattle farmer John Outlaw Sr. had a specific vision and goal for a cattle farm beginning with the purchase of around 200 acres and 75 head of black angus cattle. But the land, consisting of mostly pastureland and some forestland used for hunting, had been neglected by previous owners and left idle for many years—cedars, some oaks, green ash, and Osage orange had almost overtaken many acres of pastureland. They cleared most of these trees for more pasture; but several droughts over the years plus the neglect had done tremendous damages to the soil, thus taking its toll

on the quality of the land for grass growing purposes. John soon discovered that he needed help!

He recently enlisted his son John Jr. to take over the cattle operation who initially put up some fences on their own and constructed a pond for watering the cattle, thinking that was enough since they had enough pasture to feed them. John Jr. began noticing it took a lot of cattle feed in addition to grass to keep the cows fed enough. It had taken 1,200 rolls of hay a year plus cattle feed to feed them, especially when they started calving. Feeling a little overwhelmed, he began rotating the pastures, but it still wasn't enough even with all the acres of pastureland. He soon realized the issue was that no organic matter was present in the soil—so much was just lime rocks with no cover or topsoil—the main reason no grass was growing!



He had heard about the USDA, Natural Resources Conservation Service (NRCS) and the Environmental Quality Incentives Program (EQIP) assistance available for beginning farmers through NRCS outreach meetings in the county. His dad had received assistance from them years ago when he implemented several NRCS forestry and wildlife habitat management practices to increase deer and turkey populations for hunting opportunities. After calling the Oktibbeha County NRCS Office in Starkville for technical assistance, Soil Conservation Technician Justin Brassel visited the Outlaws and suggested several conservation practices that would help them the most. Things were going to get better!



Conservation practices that NRCS helped them install include watering facility, pipeline, heavy use area, prescribed grazing, cross fencing, critical area planting, and spraying. However, it still took several other agencies to help him get the situation under control. NRCS helped through the Environmental Quality Incentives Program (EQIP) with financial and technical assistance for conservation practices; Farm Service Agency (FSA) and their Long-Term Farm Program helped them when their grass didn't grow because of drought conditions; and the Mississippi Cooperative Extension Service (MCES) assisted with analyzing soil samples where they found a lot of lime rock and no topsoil and suggested different native grass species to plant.

John stated, “Things have really taken off since these practices were installed. Out of all the NRCS conservation practices that helped the most, fencing and rotational grazing were the most beneficial of all—best things ever!” He experimented with two acres per cow and rotating them every five days.

In time, the community has seen his farm flourish and become a successful operation. They now have enough grass to sustain 125 head of cattle including calves, plus 5 bulls. “After starting from scratch, we're doing much better now,” he stated. “The market is improving now after a slow start, and there's more weight on the cows. I've learned to improvise, overcome and adapt.”

Dennis Jones Area Conservationist (Area 3)

Adams, Amite, Covington, Forrest, Franklin, George, Hancock, Harrison, Jackson, Jefferson, Jefferson Davis, Jones, Lamar, Lawrence, Lincoln, Marion, Pearl River, Perry, Pike, Stone, Walthall, Wayne, Wilkinson

“2019 was a great year for conservation in Area 3. The employees of Area 3 did an outstanding job of obligating Farm Bill dollars and getting conservation on the ground. We were able to obligate a record number of Conservation Stewardship Program contracts for the South Area. We look forward to continuing to provide quality service to our customers in 2020.” - Dennis Jones



A Love for the Land and Wildlife

Story and Photos by Laura T. Anderson, Public Affairs Specialist



Listening to Adrian McCaa talk, you can hear the love he has for his land, and how deeply it runs within his soul. McCaa has always had a passion for fishing and a love for game hunting. One year he was invited to go on a turkey hunting trip in Mississippi and developed a passion for the sport ever since. For more than 20 years, he has traveled to Mississippi to turkey hunt.

McCaa was born in Baton Rouge, Louisiana where his family owned a small farm, and milking cows was his every morning and every evening routine. It was on this farm that McCaa developed a strong love for the land.

After graduating from Southeastern Louisiana University with a Bachelor of Science Degree in Pre-Veterinary Medicine, McCaa served two years in the United States Army during the Vietnam War.

“After getting out of the Army, I went to work for Dow Chemical in Louisiana,” McCaa said.

After having another job in Alaska, McCaa got an invite that would ultimately change his life forever.

“I visited Alaska with a friend and got a job with an oil company. I lived there for more than 30 years. I loved the hunting and fishing experience in Alaska,” said McCaa. “I was invited by a friend to come to Mississippi to a turkey hunt, and I fell in love with the sport and the state. In 2010, Plum Creek had this property for sale in Franklin County, and my wife, who has always supported my passion for fishing and hunting, encouraged me to purchase the property. We purchased the property, which is approximately 280 acres, and we moved to Mississippi.”



McCaa was interested in developing the property and being the best steward he could possibly be. But he knew to achieve his vision he needed help.

“I spoke with Mississippi Forestry Commission and asked them what I could to help the wildlife and have a better timber production,” said McCaa. “They recommended I go to the USDA Natural Resources Conservation Service (NRCS) and speak with the staff.”

“Mr. McCaa has done a good job since purchasing the property, trying to be a good steward of the land with his practices that he has completed through the USDA-NRCS Environmental Quality Incentives Program (EQIP),” said Jim Barnes, NRCS Area 3 Forester. “One of those practices is prescribed burning, and Mr. McCaa has done a great job of maximizing the benefit by breaking the tract into several different blocks, creating several different levels of succession that are beneficial to wildlife in different stages.”

Barnes said prescribed burning is one of the best methods landowners can use to manage their property to create better wildlife habitat, which leads to better population diversity in wildlife such as deer, pollinators, quail and wild turkey.

“Mr. McCaa became a certified prescribed burning manager himself so that he can do his burning on his property,” Barnes said.



Adrian and Renee McCaa

“The outcome of his prescribed burning speaks for itself, and the successful management of his property shows that he is doing things right.”

“Prescribed burning enhances wildlife habitat by reducing the amount of woody vegetation in the forest understory and mid-story,” said Christopher Locke, state forester, USDA-NRCS. “This allows more sunlight to reach the forest floor to promote the establishment and growth of herbaceous vegetation for wildlife.”

Locke stated, burning also reduces hazardous fuel levels, which greatly reduces the likelihood of catastrophic losses associated with wildfires if they occur.

McCaa signed up for NRCS’s Conservation Stewardship Program (CSP) which, if he is approved, will assist him in managing the property with prescribed burns, pollinator planting, snags and dens enhancements. McCaa also signed up for the Environmental Quality Incentive Program (EQIP) for replanting, burning, and installing fire lanes on the newly purchased property.



Growing Culturally Significant Plants on Tribal Lands

Timothy W. Oakes Contributing Writer with the USDA Natural Resources Conservation Service

Very thick or dense stands of *Arundinaria* or River Cane patches are like a superstore offering materials for use in many ways making it a vital and very useful plant for multiple stakeholder groups in this region.

River Cane is an important plant for many indigenous tribes in the Southeastern United States. It provided the Choctaw and Cherokee with material for fuel and candles and the coarse, hollow stems were made into hair ornaments, game sticks, musical instruments, toys, weapons, and tools (Hill 1997; Hamel and Chiltoskey 1975). The Houma, Koasati, Cherokee, Chitimacha, Chickasaw, Choctaw, Creek and Seminole made the stems into arrow shafts, blowguns and darts for hunting squirrels, rabbits, and various birds (Bushnell 1909; Hamel and Chiltoskey 1975; Speck 1941; Kniffen et al. 1987). Young Cherokee boys used giant cane blowguns armed with darts to protect ripening cornfields from scavenging birds and small mammals (Fogelson 2004). The Choctaw used the butt end of a cane, where the outside skin was thick, as a knife to cut meat, or as a weapon (Swanton 1931). Tribes of Louisiana also made flutes, duck calls, and whistles out of cane (Kniffen et al. 1987).



Fig.1 Participants tour CSP sites during the annual, Culturally Significant Plant Training Session held at the NRCS Tribal Office in Choctaw Mississippi.

As part of an effort of working more effectively with American Indian Tribes, the USDA, Natural Resources Conservation Service Tribal Office and the Mississippi MBCI Department of Natural Resources, Department of Wildlife, Parks and Fisheries partnerships provided an opportunity to assist Indian Country with this valuable resource. River Cane stands are being propagated and transplanted to land owed by the Mississippi Band of Choctaw Indians.



*Erosion control area where cane is being used to reduce runoff and break up concentrated water flow.
Photo T. Oakes*

For the Southeastern United States, cane is best harvested in the fall or winter (October to February) in most cases. The plant stems, known as culms, are selected from mature, hardened off plants with diameters that range from a dime size and up to a half dollar in size. Cane of both types, *gigantea* and *tecta*, are an excellent plant to assist in the stabilization of small streams and areas of concentrated flow. Future plans are to propagate, Hickory, Sassafras, River Oats, Cattail, and Cherokee bean.

Kevin Kennedy Area Conservationist (Area 4)

Bolivar, Coahoma, Holmes, Humphreys, Issaquena, Leflore, Quitman, Sharkey, Sunflower, Tallahatchie, Tunica, Warren, Washington, Yazoo



“Special thanks to all Area 4 employees this year for your hard work in assuring that the Mississippi Delta has clean and an abundant supply of water for generations to come and your contributions to the overall success of NRCS Mississippi!” - Kevin Kennedy

Delta Cropland Farming at Its Best

When taking a glimpse at the Morris family farm, you get a chance to see why Rocco Morris was the recipient of the 2018 Mississippi Association of Conservation District Cropland award.

The Morris farm spans 1,400 acres in Bolivar County with an annual crop rotation of approximately 300 acres of corn, 120 acres of double-cropped wheat and soybeans, and 980 acres of soybeans. Morris has leaned on the Natural Resources Conservation Service (NRCS) to help with the upkeep of his land, a decision that has brought him much success.



Morris has used different forms of conservation tillage systems on every acre of his farm since he began working with NRCS in 2009. He has 300 acres on non-irrigated land that is no-till or stale seedbed, the other 1,100 acres of his operation use minimum tillage, consisting of rehipping after harvest. He also has implemented conventional, disking and rehipping is only applied when necessary after a wet harvest season.

Through the Environmental Quality Incentive Program (EQIP), Morris has installed three native warm-season grass field borders to improve water quality and provide wildlife habitat. He also created 25 acres of waterfowl impoundments.

Morris has leveled his fields to a specific grade with precision land forming, which allows approximately 500 acres of irrigated cropland to be managed for water quantity. All 500 acres of the precision land formed ground have dikes and structures for water control, allowing him to hold 200 acres of water for migrating waterfowl.

Morris has 1,100 acres of irrigated land, all of which are managed with “pipe planner,” a computerized tool for sizing holes in poly pipe to maximize irrigation efficiency. He’s also installed permanent flowmeters on seven wells on his farm. These utilize soil moisture sensors throughout the farm and he has introduced a tailwater recovery system which holds approximately 12-acre feet of storage to offset groundwater irrigation use on 80 acres of precision land formed ground.



Through the Conservation Stewardship Program (CSP), Morris has been a good steward of the environment, implementing enhancements that use low drift nozzles and GPS targeted spray applications. Along with that work, Morris has invested in high level integrated pest management to mitigate offsite pesticide applications. He’s also used nitrogen inhibitors for nitrogen fertilizer applications, split nitrogen applications, and precision nutrient application technology on approximately 880 acres of his land. These were put in place to protect surfaces from nitrate contamination. Morris has also taken the time to implement 120 acres of cover crops on his farming operation annually. By doing this he rejuvenates the soil health on his property and over time, will reduce inorganic inputs such as fertilizers and pesticides.

“Mr. Morris has been a model producer to work with. He is energetic about implementing conservation practices on his farm with a willingness to try new things,” said Soil Conservationist, Jason Makamson. “I began working with Mr. Morris as a small beginning farmer in 2006 with less than 100 acres in his operation. Over the last 13 years, he has grown his farm to approximately 1,500 acres and implemented numerous conservation practices, maintaining a steady attitude of making the most of his small operation by utilizing the EQIP and CSP programs.”

Mr. Morris is a frequent visitor to the NRCS office, where he is looking for ways to improve his farm and is open to trying new ideas with or without financial assistance. Morris’s dedication to his craft has also spilled over into his community, where several of his neighbors and landowners have been involved with NRCS programs as well. Morris is an absolute believer in NRCS programs and a true believer in leaving things better than he found them.

Mississippi Agriculture Overview

Agriculture is Mississippi's number one industry, employing approximately 29% of the state's workforce either directly or indirectly. Agriculture in Mississippi is a 7.72 billion-dollar industry. There are approximately 34,700 farms in the state covering 10.4 million acres. The average size farm is composed of 299 acres. Agriculture makes a significant contribution to all 82 counties. In celebration of the efforts of those who work so hard to feed and clothe us, we present this overview of Mississippi's top 16 agricultural crops. Source: <https://www.mdac.ms.gov/agency-info/mississippi-agriculture-snapshot/>

<p>Poultry / Eggs – \$2.99 Billion</p> <ul style="list-style-type: none"> • Approximately 747 million broilers were produced in 2018. • 1,430 broiler farms. • 1,410 million eggs produced. 276 farms with 100+ layers. 	<p>Forestry – \$1.25 Billion</p> <ul style="list-style-type: none"> • 19,700,000 acres. 125,000 forest landowners 	<p>Soybeans – \$1.06 Billion</p> <ul style="list-style-type: none"> • 116,600,000 bushels produced in 2018. 3,274 farms. 	<p>Cotton – \$623 Million</p> <ul style="list-style-type: none"> • 1,480,000 bales produced in 2018. 824 farms.
<p>Corn – \$351 Million</p> <ul style="list-style-type: none"> • 86,480,000 bushels produced in 2018. 2,022 farms. 	<p>Cattle/Calves – \$305 Million</p> <ul style="list-style-type: none"> • 930,000 head in 2018. 15,940 farms. 	<p>Catfish – \$164 Million</p> <ul style="list-style-type: none"> • 36,100 acres of production in 2018. 160 operations. 	<p>Sweet Potatoes – \$118 Million</p> <ul style="list-style-type: none"> • 5.40 million hundred-weight produced in 2018. 29,000 acres harvested.
<p>Rice – \$117 Million</p> <ul style="list-style-type: none"> • 10,147,000 hundredweight rice produced in 2018. 259 farms. 	<p>Hay – \$106 Million</p> <ul style="list-style-type: none"> • 1.18 million tons produced in 2018. 590,000 acres harvested. 	<p>Horticultural Crops – \$104 Million</p> <p>Horticulture crops include vegetables, melons, potatoes, fruits, tree nuts, berries, nursery, greenhouses, floriculture, sod and Christmas trees.</p>	<p>Hogs – \$94 Million</p> <ul style="list-style-type: none"> • 575,000 hogs and pigs. 306 farms.
<p>Milk – \$23 Million</p> <ul style="list-style-type: none"> • 9,000 milk cows in 2018. 68 Grade A dairy herds. 	<p>Peanuts – \$19 Million</p> <ul style="list-style-type: none"> • 96 million pounds produced in 2018. • 24,000 acres harvested. 128 farms 	<p>Wheat – \$12 Million</p> <ul style="list-style-type: none"> • 2,065,000 million bushels produced in 2018. 35,000 acres harvested. 	<p>Grain Sorghum – \$1.3 Million</p> <ul style="list-style-type: none"> • 240,000 bushels produced in 2018. 3,000 acres harvested.



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